What is claimed is:

1. A method for reducing copper corrosion in a semiconductor device comprising:

providing a semiconductor substrate with a Cu-containing conductive material formed thereon and a film directly interposed between said Cu-containing conductive material and the environment; and

cleaning said semiconductor substrate using a DI water clean operation that includes rotating said semiconductor substrate at a spin speed no greater than 350 rpm.

2. The method as in claim 1, wherein said providing includes performing an etch operation that exposes said film and includes using a patterned photoresist layer as an etch mask, and said cleaning said semiconductor substrate further comprises removing portions of said photoresist layer.

3. The method as in claim 2, wherein said cleaning said semiconductor substrate further comprises stripping said photoresist layer using a plasma prior to said using a DI water clean operation.

4. The method as in claim 1, wherein said film comprises an etch stop film and said providing comprises performing an etch operation that exposes said etch stop film.

5. The method as in claim 4, wherein said performing an etch operation comprises etching a dielectric layer formed over said etch stop film.

6. The method as in claim 5, wherein said etch stop film is disposed directly beneath said dielectric layer.

7. The method as in claim 5, wherein said etching a dielectric layer is part of a dual damascene dry etching process sequence.

8. The method as in claim 5, wherein said dielectric layer includes at least one of a layer of carbon-containing material, a layer of nitrogen-containing material and a layer of fluorine-containing material.

9. The method as in claim 1, wherein said Cu-containing conductive material comprises substantially pure copper.

10. The method as in claim 1, wherein said film comprises one of SiN, SiC, SiOC, and SiCN.

11. The method as in claim 1, wherein said film includes a thickness ranging from 400 to 800 angstroms.

12. The method as in claim 1, wherein said cleaning includes rotating said semiconductor substrate at a spin speed of at least 150 rpm during said DI water clean operation.

13. The method as in claim 1, wherein said semiconductor substrate is approximately 300mm in diameter and said spin speed lies within the range of 180 to 250 rpm.

14. The method as in claim 1, wherein said semiconductor substrate is approximately 200 mm in diameter and said spin speed lies within the range of 200 to 300 rpm.

15. The method as in claim 1, wherein said cleaning further includes cleaning said semiconductor substrate using an in-situ organic cleaning operation, an aqueous

chemical cleaning operation or a DI water/ozone cleaning operation, prior to said using a DI water clean operation.

16. The method as in claim 15, wherein said in-situ organic cleaning operation, aqueous chemical cleaning operation or DI water/ozone cleaning operation comprises an organic cleaning operation using an organic solvent that contains fluorine.

17. The method as in claim 1, further comprising performing an in-situ drying operation by spin drying said semiconductor substrate.

18. The method as in claim 17, wherein said spin drying includes air or nitrogen as a gaseous medium.

19. The method as in claim 1, wherein said DI water clean operation includes nitrogen or air as an ambient medium.

20. The method as in claim 1, wherein said cleaning comprises individually cleaning said semiconductor substrate in a tool that processes semiconductor substrates individually.